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10/642,494	08/18/2003	Koji Motoyama	0033-0897P	1856

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EXAMINER

KHAN, SUHAIL

ART UNIT PAPER NUMBER

2617

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 rejected under 35 U.S.C. 103(a) as being unpatentable over European Patent Application EP 0718964 A2 to Kennan, in view of U.S. Patent No. 6538533 to Hwang et al and U.S. Patent No. 4922211 to Otremba et al.

Referring to **claim 1**, Kennan discloses a low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters), comprising: a plurality of local oscillators (col 2, lines 13-15, two FET oscillators) with applied potential to the input (col 3, lines 9-12, potential) each including a dielectric resonator (col 2, lines 15-20, dielectric resonator) and having an oscillation frequency different from each other (col 2, lines 5-10, two different frequencies). Kennan does not disclose a metal shielding box accommodating said plurality of local oscillators, wherein said metal shielding box includes only one shielding chamber accommodating said plurality of local oscillators and an electromagnetic coupling preventing member preventing electromagnetic coupling between one and another one of said dielectric resonators; said electromagnetic

coupling preventing member extending between any two of said dielectric resonators and receiving a reference potential.

Hwang et al disclose two dielectric resonators, a metal case and a screw arranged between the dielectric resonators (col 7, lines 43-52; figures 7A/7B) and Otremba et al show an oscillator with a dielectric resonator and a metal housing and metal covers (figure 1 and col 2, lines 12-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan to show a low noise block down converter, comprising: a plurality of local oscillators each including a dielectric resonator and having an oscillation frequency different from each other; and a metal shielding box accommodating said plurality of local oscillators, wherein said metal shielding box includes only one shielding chamber accommodating said plurality of local oscillators and an electromagnetic coupling preventing member preventing electromagnetic coupling between one and another one of said dielectric resonators; said electromagnetic coupling preventing member extending between any two of said dielectric resonators and receiving a reference potential, as taught by Hwang et al, the motivation being achieving optimum electromagnetic coupling (Hwang et al, col 4, lines 15-20), and Otremba et al, the motivation being to provide a dielectric resonator in a hermetically tight cavity inside a metal housing (Otremba et al, col 1, lines 34-37).

Referring to **claim 2**, Kennan discloses the low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters) and receiving a reference potential (col 3, lines 9-12, applying a first potential to the input) according to claim 1. Kennan and Otremba et al do not explicitly disclose that the electromagnetic coupling preventing member includes a conductive

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bar having one end extending between any two of said dielectric resonators. Examiner maintains that the concept that the electromagnetic coupling preventing member includes a conductive bar having one end extending between any two of said dielectric resonators was well known in the art as taught by Hwang et al.

Hwang et al show a screw arranged between the dielectric resonators (col 7, lines 43-52; figures 7A/7B).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan, Hwang et al and Otremba et al to show that the electromagnetic coupling preventing member includes a conductive bar having one end extending between any two of said dielectric resonators, as taught by Hwang et al, the motivation being achieving optimum electromagnetic coupling (Hwang et al, col 4, lines 15-20).

Referring to **claim 3**, Kennan discloses the low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters) and receiving a reference potential (col 3, lines 9-12, applying a first potential to the input) according to claim 1. Kenan and Otremba et al do not explicitly disclose a substrate having a surface on which said plurality of local oscillators are mounted, wherein said electromagnetic coupling preventing member includes a conductive pattern formed on the surface of said substrate between any two of said dielectric resonators. Examiner maintains that the concept that the electromagnetic coupling preventing member includes a conductive pattern formed on the surface of said substrate between any two of said dielectric resonators was well known in the art as taught by Hwang et al.

Hwang et al disclose a screw arranged between the dielectric resonators (col 7, lines 43-52; figures 7A/7B) and a dielectric substrate (col 7, lines 5-11).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan, Hwang et al and Otremba et al to show that the electromagnetic coupling preventing member includes a conductive pattern formed on the surface of said substrate between any two of said dielectric resonators, as taught by Hwang et al, the motivation being achieving optimum electromagnetic coupling (Hwang et al, col 4, lines 15-20).

Referring to **claim 4**, Kennan discloses the low noise block down converter (col 1, lines 5-10, Low Noise Block Downconverters) and receiving a reference potential (Kennan, col 3, lines 9-12, applying a first potential to the input) according to claim 1. Kennan and Otremba et al do not explicitly disclose that the electromagnetic coupling preventing member includes a metal plate provided between any two of said dielectric resonators. Examiner maintains that the concept that electromagnetic coupling preventing member includes a metal plate provided between any two of said dielectric resonators was well known in the art as taught by Hwang et al.

Hwang et al disclose a screw arranged between the dielectric resonators (col 7, lines 43-52; figures 7A/7B).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kennan, Hwang et al and Otremba et al to show that the electromagnetic coupling preventing member includes a metal plate provided between any two of said dielectric resonators as taught by Hwang et al, the motivation being achieving optimum electromagnetic coupling (Hwang et al, col 4, lines 15-20).


Response to Arguments

4. Applicant's arguments, filed 5/1/2006, with respect to the rejection(s) of claim(s) 1-4 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Pat. No. 4922211 to Otremba et al.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suhail Khan whose telephone number is (571) 272-7910. The examiner can normally be reached on M-F from 8 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Joseph Feild, can be reached at (571) 272-4090.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER